

1160 W. Orange Grove Ave., Arcadia, California 91006, U.S.A.
© Copyright 1973

A NEW SPECIES OF *NEPHELODES* GUENEE
FROM THE GREAT BASIN AREA OF
NORTHEASTERN CALIFORNIA (NOCTUIDAE: HADENINAE).
JOHN S. BUCKETT

University of California
Davis, California

AN UNDESCRIBED SPECIES of *Nephelodes* Guenée has been in collections of western lepidoptera for a decade now, and herein is presented a description of that species. *Nephelodes adusta* J. S. Buckett, new species, occurs in the Great Basin region of northeastern California (Modoc and Lassen Counties), and is in the adult stage in late summer. In addition, photographs of adults, and the male and female genitalia of *N. adusta* are presented. The male genitalia and adult photographs of *N. demaculata* Barnes and McDunnough and *N. mendica* Barnes and Lindsey, the two most closely related species to *adusta*, are also presented.

Nothing is yet known concerning the immature stages of *N. adusta*, but Crumb (1956), states (concerning another species contained within this relatively small genus), namely *N. emmedonia* Cramer, "Prefers grasses and cereal crops, but has been reported as feeding on weeds and the buds and leaves of fruit trees." It is unlikely that *N. adusta* will prove to be of agricultural importance as a pest, but the plausibility of it feeding on grasses and/or weeds might be a good possibility.

***Nephelodes adusta* J. S. Buckett, new species**
(Figs. 1, 2, 7, 8, 13)

DESCRIPTION: Holotype male: Ground color of primaries tan. Head with vertex and frons clothed in tan simple hairs and scales; palpi with second and third segments possessing elongate simple hairs ventrally, terminal segment short, stubby; compound eyes with numerous elongate hairs; antennae with scape and pedicel clothed in shortish flattened tan scales, flagellomeres with medial portion biserrate, fasciculate, serrations becoming shorter terminally, dorsally clothed in off-white scales. Thorax dorsally with collar not noticeably differentiated from remainder of thoracic vestiture, tan in coloration; disc and tegulae composed of unicolorous tan elongate hairs and scales; ventral portion clothed in simple tan hairs; legs possessing



1



2

Fig. 1.—*Nephelodes adusta* J. S. Buckett, Holotype male. Inspection Station 6 mi. N. Alturas, Modoc Co., Calif., 8 Sept. 1962.

Fig. 2.—*N. adusta*, allotype female. Locality same as fig. 1, 10 Sept. 1962.

elongate tan hairs on femora and tibiae, tibiae also possessing short tan scales; unguis moderately bifurcate; primaries dorsally tan; basal line wanting, or at best slightly represented; transverse anterior line hardly represented, defined by tan coloration basally, terminally defined by darker median area; median area darker than ground color, concolorous with thoracic vestiture; orbicular wanting; reniform hardly discernible from darker median area, of ground color; transverse posterior line defined



3



4

Fig. 3.—*Nephelodes demaculata* Barnes and McDunnough, male. Johnsville, Plumas Co., Calif., 9 Sept. 1961 (W. R. Bauer & J. S. Buckett).

Fig. 4.—*N. demaculata*, female. Same locality and collectors as preceding.

by line of demarcation between dark median area and lighter subterminal area; subterminal area tan; subterminal line wanting; terminal line represented at base of fringes as darker coloration than ground color; fringes of ground color; ventral surface of primaries tan; secondaries dorsally off-white, near tan in coloration; fringes whitish; ventral surface equivalent to dorsal surface. Abdomen dorsally with tan simple hairs both dorsally and ventrally. Greatest expanse of forewing 16 mm. Genitalia as in figs. 7 and 8.



5



6

Fig. 5.—*Nephelodes mendica* Barnes and Lindsey, male. Spring Creek, NW Baker, Baker Co., Oregon, 7 Sept. 1963 (W. R. Bauer & J. S. Buckett).

Fig. 6.—*N. mendica*, female. Oak Creek Canyon, 7 mi. N. Sedona, Cochise Co., Arizona, 6 Sept. 1961 (J. S. Buckett)

Female: As in male except antennae with flagellomeres setose-ciliate; secondaries dorsally brownish, ventrally as in male. Greatest expanse of forewing 18 mm. Genitalia as in fig. 13.

SPECIMENS EXAMINED: Holotype male: CALIFORNIA: Border Inspection Station, 6 mi. N Alturas, Modoc Co., 8 September 1962. Paratypes: 47 males, 2 females. 1 female, designated allotype, same locality

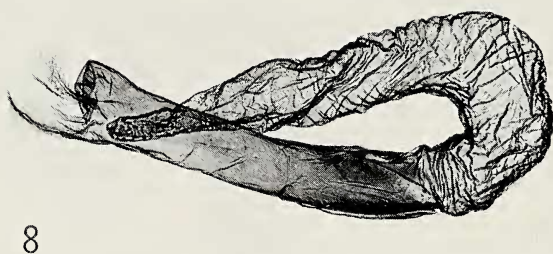


Fig. 7.—*Nephelodes adusta*, paratype male, genitalia minus aedeagus. 6 mi. N Alturas, Modoc Co., Calif., 3 Sept. 1962. (Bauer-Buckett slide no. 67F26-21B).

Fig. 8.—*N. adusta*, paratype male, aedeagus. Data same as fig. 7.

as holotype, 10 Sept. 1962, (UCD Lepidoptera slide no. 71C16-1); 1 male, same locality as holotype, 3 Sept. 1962, (Bauer-Buckett slide no. 67F26-21B); 1 male, Alturas, Modoc Co., 6 Sept. 1959 (W. E. Simonds); 42 males same locality as holotype, 30 August-8 Sept., 1962; 1 male, same locality as preceding, 24 Sept. 1964; 1 male, same locality as preceding, 4 Sept. 1964; 1 male same locality as preceding, 4 Sept. 1968; 1 male, 1 female, Susanville, Lassen Co., 4 Sept. 1969 (R. P. Allen).

There is considerable intraspecific variation in size of *N. adusta*, the greatest expanse of the forewing in the male varying from $\pm$ 16 mm to 18 mm. In addition, the ground color of the primaries varies from tan to a darker brown, but without any suggestion of reddish-brown coloration as in *N. demaculata*.

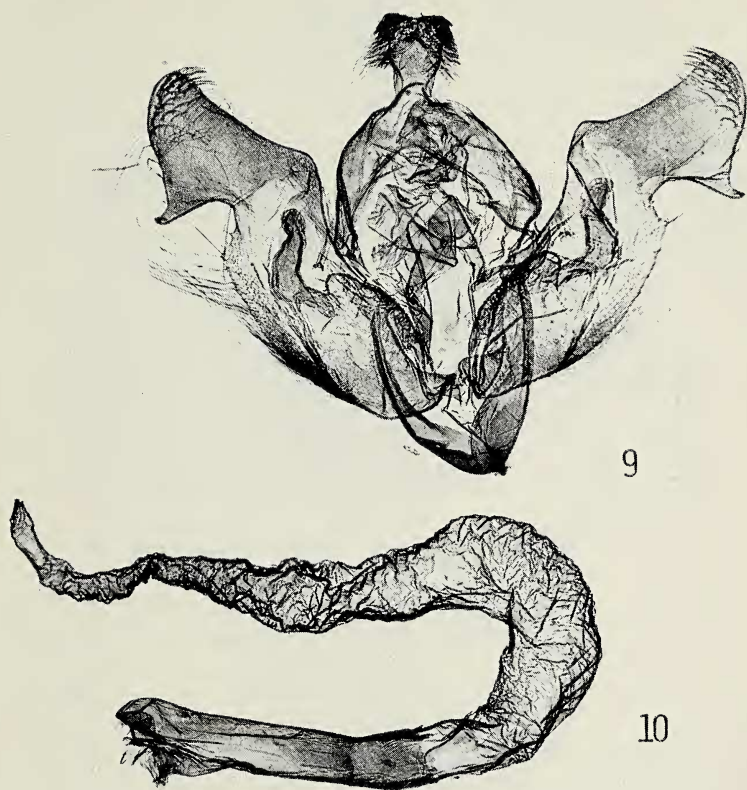


Fig. 9.—*Nephelodes demaculata* Barnes and McDunnough, male genitalia minus aedeagus. Johnsville, Plumas Co., Calif., 15 Aug. 1962 (Helena Pini), (Bauer-Buckett slide no. 67F26-22B).

Fig. 10.—*N. demaculata*, aedeagus. Data same as in fig. 9.

The ground color of the secondaries also varies, becoming darker in accordance with the primaries. Due to the paucity of females available for study, nothing is yet known concerning variation in this sex.

Nephelodes adusta can best be distinguished from *N. demaculata*, its closest relative, by its lighter maculation and lack of reddish-brown coloration of the primaries. The secondaries of

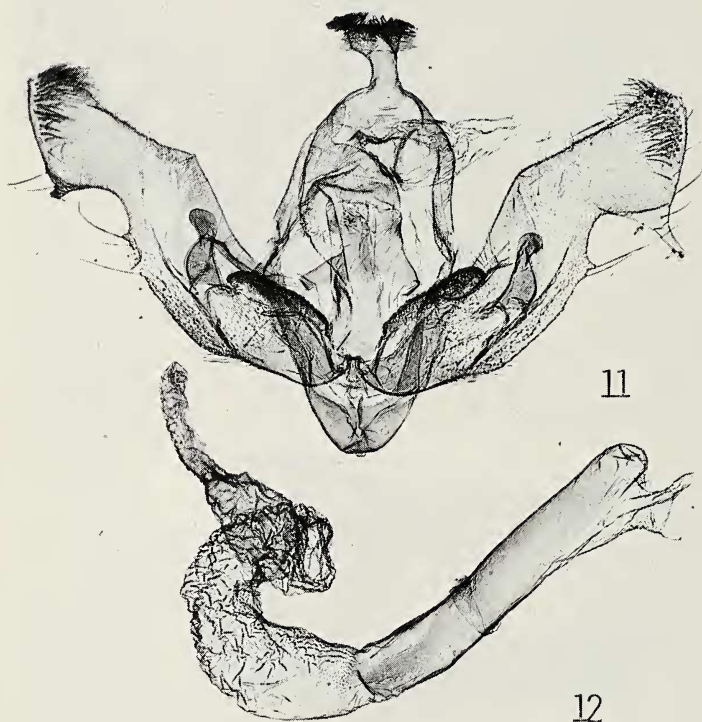


Fig. 11.—*Nephelodes mendica*, male genitalia minus aedeagus. Topaz Inspection Station, Mono Co., Calif., 17 Sept. 1967, (Bauer-Buckett slide no. 67L12-29).

Fig. 12.—*N. mendica*, aedeagus. Data same as in fig. 11.

N. adusta are not dark brown as in both male and female of *N. demaculata*. The male and female genitalia are distinct interspecifically between *N. adusta* and *N. demaculata*. In some respects, *N. adusta* is closely related to *N. mendica* Barnes and Lindsey, another inhabitant of terrain influenced by Great Basin flora. The coloration in both *N. adusta* and *N. mendica* is various shades of brown, but lacking the reddish-brown tinge



13

Fig. 13.—*Nephelodes adusta*, allotype female genitalia. 6 mi. N Alturas, Modoc Co., Calif., 10 Sept. 1962 (UCD Lepid. slide no. 71C16-1). Note the "squared-off" appearance of ovipositor lobes apically. In both *N. demaculata* and *N. mendica*, ovipositor lobes are more cleft centrally.

of *N. demaculata*. Also, *N. adusta* and *N. mendica* possess light colored secondaries in the male whereas *N. demaculata* possess dark brown secondaries.

Nephelodes demaculata Barnes and McDunnough

(Figs. 3, 4, 9, 10)

Nephelodes demaculata Barnes and McDunnough, 1918, Cont. Nat. Hist. Lepid. N. Amer. 4(2):97 + pl. 15, fig. 3; Draudt, 1923, Macrolepid. World, 7:153 + pl. 22, row c; McDunnough, 1938, Mem. So. Calif. Acad. Sci. 1:75.

N. demaculata is similar to *N. adusta*, but may be distinguished by possessing more reddish-brown coloration of the primaries and dark brown secondaries. *N. demaculata* occurs in moderately to more heavily forested areas of the northern Sierra Nevada Mountains of California. At present I have no records of this species from the Great Basin region.

The colored illustration in the Macrolepidoptera of the World (vol. 7, pl. 22, row c) is much too rosey-red; in actuality the color should be reddish-brown. In one-third of the specimens studied, the maculation of the primaries was easily discernible; whereas, two thirds of the specimens studied agreed with previously published literature in which maculation was said to be obscured.

Nephelodes mendica Barnes and Lindsey

(Figs. 5, 6, 11, 12)

Nephelodes mendica Barnes and Lindsey, 1921, Psyche 28:157-58; Draudt, 1923, Macrolepid. World, 7:153, McDunnough, 1938, Mem. So. Calif. Acad. Sci. 1:75.

N. mendica is somewhat similar to *N. adusta*, especially in that these two species, of the three herein concerned, possess whitish secondaries in the male sex (*N. tertialis* Smith, described from Manitoba, Canada, also does). *N. mendica* is darker brown in coloration than is *N. adusta*, and appears to be slightly larger.

N. mendica is rather widespread in the Great Basin region, occurring from Arizona north into Oregon and from eastern California east into Utah.

LITERATURE CITED

- BARNES, Wm. and A. W. Lindsey, 1921. Notes on Noctuidae with descriptions of some new species. *Psyche* 28:156-159.
BARNES, Wm. and J. H. McDunnough, 1918. *Contributions to Nat. Hist. Lepid. North America* 4(2):97 + pl. 15, fig. 3.
CRUMB, S. E., 1956. The larvae of the Phalaenidae. U. S. Government Press, Washington, D.C., Tech. Bull. no. 1135, 356 pp.
McDUNNOUGH, J. H., 1938. Check list of the Lepidoptera of Canada and the U.S.A. *Mem. So. Calif. Acad. Sci.* 1:1-272.
DRAUDT, M. (in A. A. Seitz), 1923. The Macrolepidoptera of the World. vol. 7:1-412 + 96 plates. Stuttgart.